

CLAIMS

1. Exhaust pipe (18, 20) comprising a thin metal tube (26A, 26B, 26C, 26D; 34; 50) having a wall thickness of less than 1 mm, which tube comprises, over at least a portion of its length, a peripheral sheath (30; 36; 52A, 52B) formed from a thermally expandable material.
2. Exhaust pipe according to claim 1, characterized in that the thermally expandable peripheral sheath has a thickness of from 0.5 mm to 20 mm, and preferably from 2 mm to 15 mm.
3. Exhaust pipe according to claim 1 or 2, characterized in that the thermally expandable material (30; 36; 52A, 52B) is composed of refractory ceramic fibres, of vermiculite and of an organic binder.
4. Exhaust pipe according to any one of the preceding claims, characterized in that, at the normal operating temperature of the exhaust pipe, the thermally expandable peripheral sheath (30; 36; 52A, 52B) has a density substantially equal to 1.
5. Exhaust pipe according to any one of the preceding claims, characterized in that it comprises a thermally insulating layer (40) interposed between the thin tube (26A, 26B, 26C, 26D) and the thermally expandable peripheral sheath (30).
6. Exhaust pipe according to claim 5, characterized in that the thermally insulating layer (40) comprises long polycrystalline ceramic fibres.

7. Exhaust pipe according to claim 5 or 6, characterized in that the thickness of the thermally expandable peripheral sheath (30) is greater than 70% of the cumulative thicknesses of the thermally insulating sheath (40) and the thermally expandable peripheral sheath (30).
8. Exhaust pipe according to any one of the preceding claims, characterized in that it comprises an external casing (32; 38; 54) for holding the thermally expandable peripheral sheath (30).
9. Exhaust pipe according to claim 8, characterized in that the thermally expandable peripheral sheath comprises two unconnected sleeves (52A, 52B), these two unconnected sleeves being surrounded by the same external peripheral casing (54) extending from the one to the other along the thin tube, a space (56) filled with air thus being delimited, between the two unconnected sleeves (52A, 52B) of peripheral sheath, by the thin tube (30) and the casing (54).
10. Manifold (18) comprising at least two exhaust pipes (18A, 18B, 18C, 18D) according to any one of the preceding claims, these two pipes converging to form a single pipe (24).
11. Motive power unit comprising a heat engine (12), an exhaust line (14) comprising at least one catalytic depollution device (16), characterized in that the portion of the exhaust line between the engine (12) and the catalytic purification device (16) comprises at least one exhaust pipe (18) according to any one of claims 1 to 9 or a manifold according to claim 10.